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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/052,706 | 01/17/2002 | Jun Takayama | 02019/LH | 1396 |
| 1933 | 7590 | 09/09/2005 | EXAMINER | |
| FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 5TH AVE FL 16 NEW YORK, NY 10001-7708 | | | QUIETT, CARRAMAH J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2612 | |

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/052,706 | | TAKAYAMA ET AL. | |
| | Examiner | | Art Unit | |
| | Carramah J. Quiett | | 2612 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,13-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>03/25/02, 06/06/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. **Claims 3-4 and 13-51** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/06/2005.

The Applicant is reminded that upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statements (IDS), filed on 03/25/2002 and 06/06/2002, have been placed in the application file, and the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. **Claims 1-2** are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura (U.S. Pat. #4,939,579).

As for **claim 1**, Nakamura discloses an apparatus (in fig. 1) for capturing an image (col. 1, lines 49 – col. 2, lines 21), comprising: a first photoelectronic converting element (ref. 2) to capture said image (col. 1, lines 52-56); a second photoelectronic converting element (ref. 1) to measure an amount of light for a purpose of a photometry operation (col. 1, lines 52-61); and a signal outputting device (refs. 4-6) to output an image-capturing start signal (col. 1, lines 52-61); wherein (in fig. 2) a first photoelectronic converting action performed by said first photoelectronic converting element and a second photoelectronic converting action performed by said second photoelectronic converting element are commenced in response to said image-capturing start signal (col. 1, lines 62-66), and, when a signal value obtained as a result of said second photoelectronic converting action performed by said second photoelectronic converting element reaches to a predetermined value (col. 2, lines 7-21), said first photoelectronic converting action performed by said first photoelectronic converting element is finalized (col. 2, lines 7-21).

For **claim 2**, Nakamura inherently discloses the apparatus wherein said signal outputting device is a release switch. In fig. 2, Nakamura illustrates an applied start pulse for photometry and integration (col. 1, lines 62-66). Then in fig. 2, he illustrates the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (col. 2, lines 7-21).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 5-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. #4,939,579) in view of Sugimoto (U.S. Pat. #6,195,127).

For **claim 5**, Nakamura teaches that the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (fig. 2; col. 2, lines 7-21). Additionally, he teaches that by changing the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure (= illuminance \times integral time) constant (col. 2, lines 7-21). However, he does not expressly disclose the apparatus further comprising: a warning section to issue a warning wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced.

In a similar field of endeavor, Sugimoto the apparatus further comprising: a warning section (fig. 7, S15) to issue a warning, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced (col. 9, lines 26-46). Please note that the image must be exposed a number of times, $N=3$, before proceeding to part A in fig. 8. If $N \neq 3$, then the process proceeds to S17, S19 and/or S21 and returns to exposure (S9) (col. 9, lines 26-46). In light of the

teaching of Sugimoto, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura with a warning section to issue a warning, in case that the signal value does not reach to the predetermined value when a predetermined time has elapsed since the first photoelectronic converting action was commenced. This modification would provide adequate exposure adjustment when implementing a mode for automatic light-emission (Sugimoto, col. 8, lines 22-67).

For **claim 6**, Nakamura teaches that said first photoelectronic converting action performed by said first photoelectronic converting element is finalized (read out; col. 2, lines 7-21). He also teaches that the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (col. 2, lines 7-21). Additionally, he teaches that the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure (= illuminance \times integral time) constant (col. 2, lines 7-21). However, he does not expressly teach the apparatus wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced.

In a similar field of endeavor, Sugimoto discloses the apparatus wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced, said first photoelectronic converting action performed by said first photoelectronic converting element is finalized. When the exposure period ($N=3$, fig. 7, S15) has elapsed, the procedure continues to A in fig. 8 where it is determined whether or not the shutter speed has reached a predetermined value (1/30 second). If the signal has not reached the predetermined value, then the procedure is finalized

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(ended) by exposing the image and proceeding to C in order to be recorded (S55) in fig. 9.

Please see figs. 7-8 and read col. 9, line 26 – col. 20.

In light of the teaching of Sugimoto, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura with an option for finalizing the performance of the first photoelectronic converting element in response to a predetermined operation when the signal value does not reach the predetermined value when a predetermined time has elapsed since the first photoelectronic converting action was commenced. This modification would provide adequate exposure adjustment when implementing a mode for automatic light-emission (Sugimoto, col. 8, lines 22-67).

For **claim 7**, Nakamura teaches that a predetermined operation where a start pulse is applied for photometry and integration (fig. 2, col. 1, lines 62-66). In fig. 2, he illustrates the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (col. 2, lines 7-21). Additionally, he teaches that by changing the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure ($= \text{illuminance} \times \text{integral time}$) constant (col. 2, lines 7-21). However, he does not expressly disclose the apparatus wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced, said first photoelectronic converting action performed by said first photoelectronic converting element is continued in response to a predetermined operation.

In a similar field of endeavor, Sugimoto discloses the apparatus (in figs. 1, 4, and 7-9) wherein, in case that said signal value does not reach to said predetermined value when a

predetermined time has elapsed since said first photoelectronic converting action was commenced (fig. 7, refs. S9, S15 [NO]; col. 8, line 48 – col. 9, line 30), said first photoelectronic converting action performed by said first photoelectronic converting element is continued in response to a predetermined operation (fig. 7, refs. S9, S11, S13, S15 [NO], S17, S19 and S21; col. 9, lines 26-46). Please note that the “predetermined operation” is depression of the shutter release button which ultimately allows the image must be exposed a number of times, $N=3$, before proceeding to part A in fig. 8 (fig. 7, S3-S15; col. 8, line 48 – col. 9, line 30). In light of the teaching of Sugimoto, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura with an option for continuing the performance of the first photoelectronic converting element in response to a predetermined operation when the signal value does not reach the predetermined value when a predetermined time has elapsed since the first photoelectronic converting action was commenced. This modification would provide adequate exposure adjustment when implementing a mode for automatic light-emission (Sugimoto, col. 8, lines 22-67).

For **claim 8**, Nakamura teaches wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced (fig. 2, col. 1, lines 62-66). In fig. 2, he illustrates the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (col. 2, lines 7-21). Additionally, he teaches that by changing the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure ($= \text{illuminance} \times \text{integral time}$) constant (col. 2, lines 7-21). However, he does not expressly disclose the apparatus further

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comprising: a mode selecting device to select either a first mode in which said first photoelectronic converting action performed by said first photoelectronic converting element is continued in response to said predetermined operation, or* a second mode in which said first photoelectronic converting element performs an action other than continuing said first photoelectronic converting action in response to said predetermined operation.

Sugimoto discloses the apparatus further comprising: a mode selecting device (fig. 1, ref. 32) to select either a first mode in which said first photoelectronic converting action performed by said first photoelectronic converting element is continued in response to said predetermined operation (figs. 7-9; col. 8, line 48 – col. 9, line 46). In light of the teaching of Sugimoto, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura with an option for selecting either a first mode in which the first photoelectronic converting action performed by the first photoelectronic converting element is continued in response to the predetermined operation. This modification would provide adequate exposure adjustment when implementing a mode for automatic light-emission (Sugimoto, col. 8, lines 22-67).

***Note:** The U.S. Patent and Trademark Office considers Applicant's "or" language to be anticipated by any reference containing one of the subsequent corresponding elements. As a result, the Examiner has chosen the first mode.

For **claim 9**, Nakamura, as modified by Sugimoto, the apparatus wherein, said predetermined operation is to operate a release switch. In fig. 2, Nakamura illustrates an applied start pulse for photometry and integration (col. 1, lines 62-66). Then in fig. 2, he illustrates the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for

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terminating the integration thereby allowing the signals to be readout (col. 2, lines 7-21). Also, please see and read Sugimoto fig. 7, S3-S15; col. 8, line 48 – col. 9, line 30.

For **claim 10**, Nakamura teaches that the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (col. 2, lines 7-21). Additionally, he teaches that by changing the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure (= illuminance \times integral time) constant (col. 2, lines 7-21). However, he does not expressly disclose the apparatus further comprising: an aperture device, disposed between a subject and said first photoelectronic converting element, to vary a diameter of an aperture opening; wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced, said aperture device increases said diameter of said aperture opening.

In a similar field of endeavor, Sugimoto discloses the apparatus (in figs. 1, 4, and 7-9) wherein, in case that said signal value does not reach to said predetermined value when a predetermined time has elapsed since said first photoelectronic converting action was commenced (fig. 7, refs. S9, S15 [NO]; col. 8, line 48 – col. 9, line 30), said first photoelectronic converting action performed by said first photoelectronic converting element is continued in response to a predetermined operation (fig. 7, refs. S9, S11, S13, S15 [NO], S17, S19 and S21; col. 9, lines 26-46). Please note that the “predetermined operation” is depression of the shutter release button which ultimately allows the image must be exposed a number of times, $N=3$, before proceeding to part A in fig. 8 (fig. 7, S3-S15; col. 8, line 48 – col. 9, line 30). In light of the teaching of Sugimoto, it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to provide the apparatus of Nakamura with an option for continuing the performance of the first photoelectronic converting element in response to a predetermined operation when the signal value does not reach the predetermined value when a predetermined time has elapsed since the first photoelectronic converting action was commenced. This modification would provide adequate exposure adjustment when implementing a mode for automatic light-emission (Sugimoto, col. 8, lines 22-67).

Additionally, Sugimoto teaches that a CCD imager for subjecting an optical image is applied through an optical system to a photoelectric conversion. He also teaches that charges are obtained in such a manner are accumulated in an exposure period, that is a charge accumulation period, determined in response to a shutter speed. Similar to Nakamura, Sugimoto does not expressly disclose the apparatus further comprising: an aperture device, disposed between a subject and said first photoelectronic converting element, to vary a diameter of an aperture opening; said aperture device increases said diameter of said aperture opening. However, the Examiner takes Official Notice that it is well known in the art for the apparatus to further comprise: an aperture device, disposed between a subject and said first photoelectronic converting element, to vary a diameter of an aperture opening; said aperture device increases said diameter of said aperture opening. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura and Sugimoto with an aperture device disposed between a subject and the first photoelectronic converting element, to vary a diameter of an aperture opening wherein the aperture device increases the diameter of the aperture opening. This modification would provide the brightness level of the picture that is freely adjustable by adjusting the aperture.

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For **claim 11**, Nakamura, as modified by Sugimoto, illustrates the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (fig. 2, col. 2, lines 7-21). Additionally, he teaches that by changing the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure ($= \text{illuminance} \times \text{integral time}$) constant (col. 2, lines 7-21). However, he does not expressly disclose the apparatus wherein said aperture device varies said diameter of said aperture opening in a non-step mode.

The Examiner takes Official Notice that it is well known in the art for the apparatus wherein said aperture device varies said diameter of said aperture opening in a non-step mode. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura with an aperture device that varies the diameter of the aperture opening in a non-step mode. This modification would provide the brightness level of the picture that is freely adjustable by adjusting the aperture.

For **claim 12**, Nakamura, as modified by Sugimoto, illustrates the photometric value reaching a predetermined voltage (V_{ref}), which produces a transfer pulse for terminating the integration thereby allowing the signals to be readout (fig. 2, col. 2, lines 7-21). Additionally, he teaches that by changing the predetermined voltage (V_{ref}) is changed in accordance with illuminance in order to keep the exposure ($= \text{illuminance} \times \text{integral time}$) constant (col. 2, lines 7-21). However, he does not expressly disclose the apparatus wherein said aperture device varies said diameter of said aperture opening in a stepwise mode.

The Examiner takes Official Notice that it is well known in the art for the apparatus wherein said aperture device varies said diameter of said aperture opening in a stepwise mode. It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Nakamura with an aperture device varies said diameter of said aperture opening in a stepwise mode. This modification would provide the brightness level of the picture that is freely adjustable by adjusting the aperture.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | |
|--|--|
| Kato (U.S. Pat. #4,638,365) | A camera with an automatic/manual aperture control. |
| Isoguchi et al. (U.S. Pat. #4,881,127) | A camera provide with exposure control. |
| Isoguchi et al. (U.S. Pat. #4,963,985) | An imaging device provided with exposure control. |
| Ogawa (U.S. Pat. #5,751,352) | A still-video camera with exposure/aperture control. |
| Tamura et al. (U.S. Pat. #6,707,500) | Camera with a non-step aperture. |
| Kondo et al. (U.S. Pat. #6,829,008) | Imaging apparatus provided with auto exposure, which does not increase the consumption of power. |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
September 2, 2005



NGOC-YEN VU
PRIMARY EXAMINER